

## DIVISION OF NUTRITIONAL SCIENCES

### ADMINISTRATION

Cutherto Garza, director

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### THE DIVISION

Nutritional science draws upon the chemical, biological, and social sciences to understand the complex relationships between human health, nutritional status, food and lifestyle patterns, and social and institutional environments. Understanding these relationships includes the study of the metabolic regulation and function of nutrients, nutrient requirements throughout the life span, the role of diet in reducing risk of chronic disease, the nutritional quality of foods, and interventions and policies designed to promote the nutritional health of individuals, communities, and populations.

The focus of this broad field of study at Cornell is the Division of Nutritional Sciences, which brings together specialists from many disciplines. The faculty are involved in undergraduate and graduate teaching, research, and extension of research-based knowledge throughout New York State, the nation, and the world.

The division is affiliated with both the College of Human Ecology and the College of Agriculture and Life Sciences. The undergraduate program in Nutritional Sciences is offered through the College of Human Ecology. An undergraduate program, Nutrition, Food, and Agriculture, is offered in the College of Agriculture and Life Sciences. The undergraduate program in Human Biology, Health, and Society is offered through the College of Human Ecology. A program of study in nutrition for biological science majors is offered in collaboration with the undergraduate program in biology. Graduate study in the field of nutrition is administered by faculty members throughout the university.

### FACILITIES

Most of the faculty members of the division work in Savage Hall, Kinzelberg Hall, and Martha Van Rensselaer Hall. In addition to housing offices, classrooms, and seminar rooms, these buildings contain research facilities, specialized laboratories, a human metabolic research unit, and computer facilities. Savage Hall also has a graduate reading room.

### UNDERGRADUATE PROGRAMS

The Division of Nutritional Sciences offers three programs leading to a B.S. degree:

**Nutritional Sciences (NS)**, College of Human Ecology: this program provides students with a strong foundation in the broad field of nutritional sciences as well as thorough training in chemistry and biology. Students may prepare for a variety of career interests including medicine and other health careers, fitness and sports nutrition, nutrition counseling, clinical nutrition, dietetics, nutritional biochemistry, community nutrition, and nutrition education.

**Nutrition, Food, and Agriculture (NFA)**, College of Agriculture and Life Sciences: this program is for students who want strong training in human nutrition combined with supportive course work in agriculture and the life sciences. Strong preparation in biology, chemistry, and math is required. Students in the Nutrition, Food, and Agriculture program supplement the nutrition curriculum with courses in areas such as food science, animal science, plant science, advanced biology, business and economics, education, and communication.

**Human Biology, Health, and Society (HBHS)**, College of Human Ecology: established in 1997, this program gives students a strong foundation in biology. It then goes on to explore human health issues from the perspectives of both biology and the social sciences. Students complete a rigorous curriculum in the natural sciences and then, choosing from a wide array of courses offered in the College of Human Ecology, focus their studies on health issues of their choice. Students can explore such topics as gene expression and metabolism related to disease states, biological and social aspects of growth and development, and policies and programs influencing health.

The division also offers the **Program of Study in Human Nutrition for biological sciences majors** who may be enrolled in the College of Agriculture and Life Sciences or College of Arts and Sciences. The Program of Study in Human Nutrition offers biology majors courses on the nature and biochemical function of essential and nonessential nutrients, nutrient requirements, the role of nutrients in gene expression, and the role of diet in both risk of chronic disease and treatment of existing disease states. Students in this program of study are encouraged to complete a diverse set of advanced courses. They afford a perspective on current knowledge of nutrient requirements and function and how this knowledge can be put to use. With the exception of a core course in the structure and function of nutrients, the course requirements are unspecified.

Faculty advisers work with individual students to develop a curriculum that fits the students' interests. As part of their program, students are encouraged to obtain laboratory experience either through course work or research. Students completing the program

in nutrition most often choose to continue their education in medical or graduate school and pursue careers in the applied aspects of nutrition or in laboratory-based or epidemiological research.

### THE CURRICULUM

Undergraduate students in these programs complete the requirements of their colleges as well as the courses required by the program of their specific interest.

The NS, NFA, and HBHS programs all require a rigorous sequence of courses in chemistry and biology, including introductory chemistry and biology, organic chemistry, biochemistry, and physiology. A minimum competency in college algebra is required with an additional math and/or statistics requirement for some programs and career paths. Students in the HBHS major also complete a course in physics and two additional courses in advanced biology.

All students complete the introductory course Nutrition, Health, and Society (NS 115). The NS and NFA programs require the completion of four other core courses: Social Science Perspectives on Food and Nutrition (NS 245); Nutritional and Physicochemical Aspects of Foods (NS 345); Physiological and Biochemical Bases of Nutrition (NS 331); and Methods in Nutritional Sciences (NS 332). Students in these programs also must select a minimum of nine credits in advanced courses in the nutritional sciences.

The HBHS major requires a minimum of six credits from courses that integrate biology and the social sciences as they examine health issues. In addition, students also must complete nine credits of advanced electives in courses focused on human biology, health, and society.

Undergraduate students in these programs have a faculty adviser with whom they meet at least twice a year. Advisers help students plan their course schedules and can suggest opportunities for individual study or experience outside the classroom.

In all undergraduate programs the correct sequencing of biology, chemistry, and/or nutrition courses is very important. Students considering these programs should get detailed information about course requirements from the division's Academic Affairs Office, 309-335 MVR. This office offers a wide range of advising materials to help students develop a program of study that matches students' interests and needs.

### CAREER OPTIONS AND COURSE PLANNING

Requirements for the programs are the minimum set of courses necessary for a bachelor's degree in these fields. Students should supplement their requirements

with elective courses and other learning experiences that will prepare them for entry-level jobs or advanced study in their field(s) of interest. A summary of suggested electives for different career interests follows:

#### **Medicine and Other Health Careers:**

Recommended courses for pre-med students include calculus and two terms of physics. Specific information about medical school admissions requirements can be obtained from the university's Health Careers Office, 203 Barnes Hall. Students interested in other health careers should acquire specific information about those requirements. Courses of interest may include those related to the biological and social determinants of health; human growth, development, and behavior through the life course; interpersonal communications; advanced biology; sociology; psychology; and ethics.

**Dietetics:** Students who wish to work in the areas of clinical nutrition, nutrition counseling, sports nutrition, community nutrition, or food and nutrition management should complete the academic requirements for the American Dietetic Association (ADA). Courses in foods, nutrition and disease, microbiology, management, statistics, and nutritional care are added to the courses required for the nutrition programs. For more information about meeting ADA requirements, contact DNS Academic Affairs Office, 335 MVR.

#### **Exercise, Nutrition, and Health**

**Promotion:** Students should complete a course in physiology and a course in anatomy after introductory biology. Students can complete the Applied Exercise Science Concentration at Ithaca College, which includes courses in kinesiology, exercise physiology, and biomechanics. Students who wish to apply to graduate schools to study physical therapy should complete a year of introductory physics, a course in statistics, a course in ethics, and three courses in psychology. Students should check the specific requirements of their schools of interest. For information about the Applied Exercise Science Concentration, contact the DNS Academic Affairs Office, 309 MVR.

#### **Biomedical Research/Nutritional**

**Biochemistry:** Recommended electives include calculus, physics, genetics, advanced biology and chemistry, toxicology, and nutritional sciences courses related to the physiology, biochemistry, and metabolism of different nutrients and disease states.

#### **Public Health and Community**

**Nutrition:** Suggested electives include courses in communications, education, human development, policy analysis and management, maternal and child nutrition, geriatric nutrition, nutrition and disease, and food economics.

#### **Nutrition, Food, and Business:**

Recommended electives include courses in management, marketing, economics, communications, hotel administration, and food science.

**Nutrition and Agriculture:** Recommended electives include courses in food science, animal science, plant sciences, international agriculture, agricultural economics, biological sciences, and rural sociology.

**International Nutrition:** Recommended electives include courses in language, anthropology, agricultural economics, policy,

economics, rural sociology, international agriculture, and nutritional sciences related to maternal and child health and problems of developing nations.

**Biology and Behavior:** Recommended electives include courses in psychology, human development, and neurobiology.

#### **Food, Nutrition, and Health Policy:**

Recommended electives include courses in economics, sociology, government, policy analysis, and management.

## SPECIAL EXPERIENCES

Undergraduates can enhance their experiences by participating in structured field experiences or study abroad. Academic credit can be earned for field experiences in a community agency, health care facility, or business. The Urban Semester in the College of Human Ecology provides students with an opportunity to study and gain field experience in New York City. All students intending to spend a term off-campus in field experience or study abroad must plan their courses well in advance to be sure that all program requirements can be met.

## INDEPENDENT STUDY ELECTIVES

Independent study courses (NS 400, 401, 402) can be used to obtain credit for more diverse or intensive experience than the classroom can offer, whether this involves laboratory work, library research, or field study. Any student interested in independent study should obtain the sponsorship of a faculty adviser and the approval of the associate director for academic affairs or consider applying to the honors program.

## HONORS PROGRAM

The honors program, leading to a B.S. degree with honors in the College of Human Ecology or a B.S. degree with Distinction in Research in the College of Agriculture and Life Sciences, gives official recognition to students who have demonstrated excellence in their academic work and their capacity for independent study.

In addition to fulfilling the requirements for a major, students in the honors program take seminars in designing and evaluating research, complete an original piece of research (at least six credits of NS 499), and prepare an honors thesis. The honors project may be laboratory or field research or deal with policy and program development. For more information, students should contact J. T. Brenna, B38 Savage Hall, or C. Bisogni, 328 MVR.

## COURSES RECOMMENDED FOR NONMAJORS

Courses in nutritional sciences can strengthen programs of study in biological sciences, biology and society, communications, food science, human development, human services, and other fields.

NS 115, Nutrition, Health and Society is open to all students. After NS 115, nonmajors with limited backgrounds in chemistry and biology may elect NS 245, Social Science Perspectives on Food and Nutrition; NS 247, Food for Contemporary Living; NS 275, Human Biology and Evolution; NS 306, Nutritional Problems of Developing Nations; NS 315, Obesity and the Regulation of Body Weight; NS 347, Human Growth and Development: Biological and Behavioral Interactions; NS 380, Integrating Food Systems and Human Nutrition Needs; NS 450, Public Health Nutrition; NS 451, Epidemiology and Health of Human Communities. Nonmajors with strong backgrounds in chemistry and the biological sciences may consider NS 331, Physiological and Biochemical Bases of Human Nutrition, as well as many advanced nutritional sciences courses, such as NS 345, Nutritional and Physicochemical Aspects of Foods; NS 431, Mineral Nutrition and Chronic Disease; NS 441, Nutrition and Disease; NS 455, Nobel Prizes in Biomedical Research; and NS 475, Mechanisms Underlying Mammalian Development Defects.

## GRADUATE PROGRAMS

Graduate study is administered by the Field of Nutrition, a group of about 40 faculty members from throughout the university who have a common interest in nutritional problems. In the M.S. and Ph.D. degree programs, students may specialize in molecular and biochemical nutrition, human or animal nutrition, community nutrition, or international nutrition. Research is emphasized in all graduate programs. Field experience may be an important component of concentrations in community, international and public-health nutrition, and nutrition education. Teaching experience and participation in the graduate student seminar (NS 703) are important aspects of graduate training.

The specialties and interests represented by faculty in the Field of Nutrition provide almost unlimited opportunity for graduate study. Cornell's extensive laboratory and agricultural facilities ensure that students interested in experimental nutrition have exceptional choices and thorough training. As the largest faculty in the country devoted to the study of human nutrition, the field includes specialists in biochemical, metabolic, epidemiological, and sociocultural research. Opportunities to work with community and federal agencies are available to students interested in applied nutrition and public policy. Students in international nutrition are expected to conduct their thesis research abroad.

For more information about the graduate program, please write for the brochure *Graduate Study in Nutrition*, available from the Director of Graduate Studies, Field of Nutrition, Cornell University, 309 MVR Hall, Ithaca, NY 14853-4401; telephone (607) 255-4410; web site: [www.nutrition.cornell.edu/grad.html](http://www.nutrition.cornell.edu/grad.html), e-mail: [nutrition\\_gfr@cornell.edu](mailto:nutrition_gfr@cornell.edu).

## COURSES

**NS 115 Nutrition, Health, and Society**  
Fall. 3 credits. S-U grades optional. M W F 1:25. D. Levitsky.

The course discusses the facts and fallacies concerning the role that nutrition, exercise, and other health behaviors play in preventing disease, maintaining good health, and maximizing athletic performance. Emphasis is on understanding the biological mechanisms through which good nutrition and regular exercise affect psychological and physical health.

**NS 116 Personalized Concepts and Controversies**

Fall. 1 credit. Corequisite: NS 115. S-U grades only. Limited to freshmen and transfer students. 10 per section. TBA. J. Swanson.

This course provides students enrolled in NS 115 individualized assistance in many skills including using computers to analyze diets, finding and using scientific references, understanding and criticizing scientific articles, and reviewing material presented in lectures.

**NS 120 Nutrition and Health: Issues, Outlooks, and Opportunities**

Spring. 1 credit. S-U grades only. Limited to 120 freshmen, sophomores, and juniors, others by permission of instructor. W 12:20. E. West.

A course for students interested in exploring careers in the broad fields of food, nutrition, and health. Experts representing different areas discuss their work, focusing on current issues and trends as well as the requisite knowledge and skills. This course introduces many of the disciplines that are drawn upon in addressing human problems related to food, diet, and health. Students explore career opportunities through a variety of assignments. This is **not** an introductory nutrition course for nonmajors.

**NS 200 Vegetarian Nutrition: An Introduction**

Fall. 3 credits. S-U grades optional. Prerequisite: NS 115 advised but not essential. T R 10:10–11:25. T. C. Campbell.

This introductory course surveys vegetarianism from a variety of nutrition and health considerations. The material to be presented and discussed primarily includes the empirical scientific evidence presented for easy comprehension for students without nutrition training. The course also considers the historical and sociocultural roots, both ancient and of more recent times, that have led to the growing interest in, and acceptance of, this type of dietary practice. Particular attention is given to the role of vegetarianism in the prevention and reversal of chronic degenerative diseases. Special topics on competitive sport, childhood nutrition, food preparation, and dietary transition are offered. Internationally known guest speakers provide six to eight of the lectures.

**NS 222 Maternal and Child Nutrition**

Fall. 3 credits. Prerequisites: NS 115 and a college biology course or instructor's permission; S-U grades optional. Limited to 25 students. Preregistration is required in room 309 MVR Hall. Some Saturday classes will be required. T R 1:25–2:40. C. Garza.

The course focuses on the biological bases of nutritional requirements in pregnancy, lactation, infancy, and childhood through adolescence. The course stresses critical analyses of beneficial and adverse outcomes of diverse nutrient intakes and dietary patterns, assessment of nutritional status, and the integration of nutrition, other life sciences, and social conditions in understanding

nutritional needs during these life stages. Topics include oral contraception and health, relationships between maternal diet and pregnancy outcomes; breast- and formula feeding; childhood and adolescent obesity; and the nutritional needs of young children and adolescents.

**NS 245 Social Science Perspectives on Food and Nutrition**

Fall. 3 credits. Prerequisite: NS 115. S-U grades optional. T R 10:10–11:25. J. Sobal.

Theories, concepts, and methods from the social sciences will be used to examine food, eating, and nutrition. The course uses the food and nutrition system and the food choice process as conceptual models for examining the scope of social aspects of nutrition.

**NS 247 Food for Contemporary Living**

Fall and spring. 2 credits. Laboratory sections limited to 32 students. Laboratory preregistration during course preregistration required in 309 MVR Hall. Laboratory coat or apron required. Fall and spring T 1:25–4:25 or R 9:05–12:05. E. Gier.

Emphasizes meal planning for healthy individuals using national nutrition standards; the development of food preparation and presentation skills; the application of sensory evaluation techniques; food science principles as they apply to cooking and ethnic and cultural influences on cuisine.

**[NS 275 Human Biology and Evolution (also BIOEE 275 and ANTHR 275)]**

Fall. 3 credits. S-U grades optional with permission of either instructor. M W F 10:10; disc. M. Lects every W and F; occasional lectures on M. Offered alternate years. Next offered 2005–2006. K. A. R. Kennedy, J. D. Haas. See BIOEE 275 for course description.]

**NS 300 Special Studies for Undergraduates**

Fall or spring. Prerequisite: permission of instructor. S-U grades optional. DNS faculty.

Special arrangements can be made to establish equivalency for courses not transferred from a previous major or institution. Students prepare a description of the study they want to undertake using a form available from the College Registrar's Office. The form, signed by both the instructor directing the study and the associate director for academic affairs, is filed at course registration or during the change-of-registration period.

**NS 306 Nutritional Problems of Developing Nations**

Spring. 3 credits. Prerequisite: NS 115. S-U grades optional. T R 10:10. Offered alternate years. Not offered 2005–2006. R. Stoltzfus.

Students will gain an overview of the most important nutrition problems facing developing countries today and an in-depth understanding of the nutrition problems of one country, chosen as a case study for the course. The class will use the health/care/nutrition framework to analyze the causes of these nutrition problems. Instruction is through lectures and readings. Evaluation is through individual assignments, a group project, and exams.

**[NS 315 Obesity and the Regulation of Body Weight (also PSYCH 613)]**

Spring. 3 credits. Prerequisites: NS 115, PSYCH 101. Limited to juniors and seniors.

S-U grades optional. Offered alternate years. Next offered 2005–2006. T R 1:25–3:00. D. Levitsky.

This course is a multidisciplinary discussion of the causes, effects, and treatments of human obesity. Topics include the biopsychology of eating behavior, the genetics of obesity, the role of activity and energy metabolism, the psychosocial determinants of obesity, anorexia nervosa, therapy and its effectiveness, and social discrimination.]

**[NS 320 Introduction to Human Biochemistry]**

Fall. 4 credits. Prerequisites: one year college biology; one year college general chemistry; and CHEM 257 or 357–358; or permission of the instructor. S-U grades optional. Next offered 2005–2006. M W F 10:10; sec T 1:25. W. Arion, P. Stover.

The principles of biochemistry are presented within the context of human health and disease. Metabolism of carbohydrates, lipids, proteins, and selected micro-nutrients is taught from a perspective that emphasizes their role in supporting the structure and physiological functions of the major organs of the body, including the blood. The concepts of enzyme catalysis, enzyme regulation, hormone action, and bioenergetics are incorporated within this framework. The fundamental concepts of eukaryotic DNA structure, function, and gene expression are covered with reference to their importance in regulating metabolism and the impact of a changing nutrient environment.]

**NS 331 Physiological and Biochemical Bases of Human Nutrition**

Spring. 4 credits. Prerequisites: BIO BM 330 or 331, or NS 320, or equivalent. S-U grades optional. Lec M W F 10:10; disc. W 12:20 or R 8:00. C. McCormick.

This course examines the biochemical and physiological bases of human nutritional requirements. The instructors use an integrated approach to cover the digestion and metabolism of nutrients (carbohydrates, proteins, lipids, vitamins, and minerals). Metabolic and chronic diseases related to nutrition are discussed throughout the semester. The discussion sections and problem sets provide an opportunity to examine in greater depth selected topics from lecture.

**NS 332 Methods in Nutritional Sciences**

Fall. 3 credits. Each section limited to 18 students. Prerequisites: NS 345, NS 331 preferred or concurrent registration. Laboratory preregistration during course preregistration required in 309 MVR. One evening prelim to be scheduled. Lec M 12:20; lab M W 1:25–4:25 or T R 10:10–1:10. M. N. Kazarinoff.

Laboratory introduction to principles and analytical techniques of nutritional research. Emphasis is on analytical concepts and skills required to determine nutrient function and nutritional status of individuals. Topics include methods of nutrient, metabolite, and enzyme analysis in body fluids; methods for assessing individual food intake and nutritional status; and methods for assessing the composition of foods.

**NS 341 Human Anatomy and Physiology**

Spring. 4 credits. Letter grade only. Prerequisites: college biology; NS 115 recommended. **Completion of laboratory permission forms required in 309 MVR during course enroll period. Limit 18 per lab. Attendance is required at first lab, or you will forfeit your placement.**

**For further information go to room 309 MVR.** Lec M W F 11:15, lab W 2:30-4:25 or R 9:05-11:00 or R 2:30-4:25. V. Utermohlen.

Introduction to human anatomy and physiology with particular emphasis on aspects of relevance to the nutritional sciences and medicine. All major organ systems will be covered. Laboratories emphasize location, recognition, and description of anatomical structures. Testing of physiological functions focuses on tests with nutritional and medical relevance.

**NS 345 Nutritional and Physicochemical Aspects of Food**

Spring. 3 credits. Prerequisite: college course in organic chemistry or biochemistry. S-U grades optional. T R 1:25-2:40. B. Lewis, B. Parker.

A study of the nutritional, physical, and chemical properties of foods including composition, food structure, enzymic and nonenzymic phenomena, and processing/preparation aspects. Issues related to food safety, regulation, and food composition databases are also discussed.

**NS 346 Introduction to Physicochemical Aspects of Foods—Laboratory**

Spring. 1 credit. Each section limited to 18 students. Limited to dietetics students in DNS. Prerequisites: NS 345 or concurrent registration; a college course in organic chemistry and permission of instructor during course registration (permission-of-instructor forms must be obtained from and returned to 309 MVR). Letter grade only. M 12:20-3:20 or T 9:05-12:05. B. Lewis, B. Parker.

Laboratory exercises are designed to illustrate principles related to food quality and ingredient functionality and to introduce students to the analytical methodology associated with food evaluation.

**NS 347 Human Growth and Development: Biological and Behavioral Interactions (also HD 347 and B&SOC 347)**

Spring. 3 credits. Prerequisites: BIO G 101 or 109 or equivalent; HD 115 or PSYCH 101 or equivalent. M W F 1:25. Offered alternate years. Not offered 2005-2006. J. Haas, S. Robertson.

See HD 347 for course description.

**NS 361 Biology of Normal and Abnormal Behavior (also PSYCH 361)**

Fall. 3 credits. Prerequisites: BIO G 101-102 and PSYCH 101, or permission of the instructor. A fundamental knowledge of biology and psychology is essential. S-U grades optional. Limited to 40 juniors and seniors. M W F 9:05. B. Strupp.

Serves as a critical evaluation of biological factors thought to influence behavior and/or cognitive functioning. Biological, psychological, and societal influences are integrated. Topics include nutrition and behavior, psychiatric disorders, developmental exposure to environmental toxins and abused drugs, biopsychology of learning, memory, intelligence, and related cognitive disorders.

**[NS 380 Integrating Food Systems and Human Nutrition Needs]**

Spring. 2 credits. Prerequisites: NS 115 or FOOD 200 or AN SC 100. Letter grade only. T R 8:40-9:55. J. Wilkins.

This is a student-centered course that uses case studies to examine the link between

human nutrition and health issues and those involved in systems of food production and distribution. Student teams investigate new and existing technological options within food systems that can be used to address domestic or international human nutrition needs.]

**NS 398 Research in Human Nutrition and Health**

Fall. 1 credit. Open to all students.

Required for students in honors research program sponsored by the Division of Nutritional Sciences. May be offered in spring if enrollment warrants. S-U grades only. M 2:30. J. T. Brenna, C. Bisogni.

This lecture course focuses on the structures and practice of professional research conducted in human nutrition and health, a field that encompasses questions ranging widely from subcellular components to population-level issues. The course introduces the various approaches and methods used by researchers and addresses the topics of ethics and research controls. The course describes the structure of scientific literature, preparation of research proposals, roles of scientific organizations, and funding sources. Students are required to attend and report on research seminars on campus.

**NS 400-401-402-403 Special Studies for Undergraduates**

Fall or spring. Credits to be arranged. S-U grades optional. Division faculty.

For advanced independent study by an individual or group of students who want to study a field of nutritional sciences not otherwise provided through course work in the division or elsewhere in the university. Students prepare a description of the study they want to undertake on a form to be signed by the instructor directing the study and the associate director for academic affairs. The form, available from the division office, is filed at course registration or within the change-of-registration period along with an add/drop slip in the Human Ecology Registrar's Office. To ensure review before the close of the course registration or change-of-registration period, students should submit the special-studies form to the associate director for academic affairs as early as possible.

**NS 400 Directed Readings**

Study that predominantly involves library research and independent reading.

**NS 401 Empirical Research**

Study that predominantly involves data collection and analysis or laboratory or studio projects.

**NS 402 Supervised Fieldwork**

Study that involves both responsible participation in a community setting and reflection on that experience through discussion, reading, and writing. Academic credit is awarded for this integration of theory and practice.

**NS 403 Teaching Apprenticeship**

Study that includes assisting faculty with instruction.

**NS 421 Nutrition and Exercise**

Spring. 3 credits. Prerequisites: BIOAP 311 or NS 341 and NS 115 or NS 331. Limited to nutrition majors, others by permission of the instructor. S-U grades optional. Lec T R 11:15, sec T or R 8:00-9:55 or F 1:25-3:15. S. Travis.

Designed for nutrition majors, this course examines the interaction between nutrition,

exercise, and athletic performance. Topics include the biological, psychological, and sociological aspects of nutrition as it relates to exercise performance. Lectures cover current research on nutritional needs in response to exercise, including fluids, energy nutrient requirements and caloric distribution, supplementation, ergogenic aids, pre/post event recommendations. Applications are made to various sports. Critical thinking skills are enhanced by critiques of studies on sports nutrition-related topics and the evaluation of popular sports nutrition claims. Students learn educational strategies for communicating with the recreational and professional athlete, coach, and trainer.

**NS 425 Nutrition Communications and Counseling**

Spring. 3 credits. Prerequisites: NS 115, NS 245. Dietetics/Nutrition majors preferred. Limited to juniors and seniors. Letter grades only. Lec M 1:25, Sec W 1:25-3:15 or F 8:00-9:55. S. Travis.

Students learn the theoretical basis of effective health promotion communications and develop effective nutrition communication skills through application in a variety of settings. The course provides hands-on experiences in counseling, educational program development, and oral and written communications.

**NS 431 Mineral Nutrition and Chronic Disease**

Fall. 3 credits. Prerequisites: NS 331, AN SC 410, or permission of instructor. S-U grades optional. T R 11:15. C. McCormick.

Students evaluate the evidence that diet plays a role in osteoporosis and hypertension. An additional goal of the course is to review the data upon which recommendations for daily nutrient intakes are currently based and the biological basis of current recommendations. Class discussion of key research articles is conducted and evaluated.

**NS 441 Nutrition and Disease**

Fall. 4 credits. Prerequisites: NS 331 and a human physiology course. S-U grades optional. M W F 10:10, F 8:00. V. Utermohlen.

Study of the anatomical, physiological, and metabolic abnormalities in acute and chronic illness and the role of nutritional therapy in their prevention and care. Topics covered include: nutritional assessment, nutritional pharmacology, starvation, infection, trauma, cancer, diabetes mellitus, and renal, cardiovascular, pulmonary, skeletal, neurological, liver, and gastrointestinal disorders.

**NS 442 Implementation of Nutrition Care**

Fall. 3 credits. Prerequisites: NS 115, NS 247, concurrent registration in NS 441 (or equivalent background in either course). S-U grades optional. Lec M W F 9:05. E. Gier.

Development of skills necessary to implement nutrition care in clinical settings: nutrition screening, dietary assessment, principles of medical nutrition therapy, menu planning for disease states, the role of other allied health practitioners in assuring nutritional health, and reimbursement and legislation in dietetics practice.

**NS 450 Public Health Nutrition**

Spring. 3 credits. Prerequisites: NS 115 and one course dealing with population-level studies, e.g., NS 245, HD 250, PAM



201, PAM 303, RSOC 101, RSOC 200. Completion of section forms in 309 MVR required during course enroll period. M W F 11:15, disc TBA. K. Rasmussen, D. Pelletier.

Public health nutrition is the major professional career track for nutritionists outside of dietetics. It deals with efforts to improve the diets and nutritional status of whole populations by working at the community, state, and national levels. This course helps prepare students to work in public health nutrition by describing methods used in the assessment of nutrition problems, the development of nutrition-related policies, and the delivery of health, nutrition, and food-assistance programs.

#### **NS 451 Epidemiology and Health of Human Communities**

Fall. 3 credits. Prerequisite: one semester of statistics (can be taken concurrently). M W F 1:25. E. Frongillo.

Examines through a series of case studies the role of epidemiological investigation in understanding, assessing, and improving the health and nutrition of human communities and populations. Students read and discuss scientific research and public policy literature on specific topics of current interest. Emphasis is on the conceptualization of epidemiology as an ecological science that studies the interdependence and interaction of humans with their social, cultural, and physical environment. Intended for advanced undergraduates and graduate students with an interest in health, human biology, nutrition, or epidemiology.

#### **NS 452 Molecular Epidemiology and Dietary Markers of Chronic Disease**

Spring. 3 credits. Prerequisites: upper-level biology course, introductory statistics course (can be taken concurrently), or permission of the instructor. S-U grades optional. M W 2:55-4:10. P. Cassano.

This course provides an introduction to chronic disease epidemiology and covers the natural history of the major chronic diseases affecting the U.S. population. The course focuses on the use of biological markers in understanding the etiology of cardiovascular disease, cancer, and lung disease. The course integrates biological and epidemiological information as well as public health considerations and concepts related to the prevention of disease. Topics include gene-nutrient interaction in relation to cardiovascular risk, micronutrients and cancer risk, and nutritional influences on the immune system in relation to asthma risk. The course provides a health context that enriches the learning experience in other advanced courses, particularly in biology and nutrition.

#### **NS 455 Nobel Prizes in Biomedical Research**

Spring. 2 credits. Prerequisites: a college course in biochemistry and/or cell biology, e.g., BIOBM 330, BIOBM 331-332, NS 320, BIOBM 432. M W 9:05. D. Manor.

Key topics in biomedical research are covered in detail through discussions of selected Nobel prizes. For each specific biomedical problem addressed, the discussion encompasses detailed analysis of the relevant experiments and ensuing data, evaluation of the impact of the findings on public health, and retrospective assessment in view of present-day knowledge. The course focuses mainly on breakthroughs associated with

two major public health issues: infectious diseases and cancer. Other topics discussed include: vitamins, lipid metabolism, prions, and technical breakthroughs such as DNA synthesis, mutagenesis, and PCR.

#### **NS 457 Economics of Hunger and Malnutrition (also ECON 474)**

Spring. 3 credits. Prerequisites: ECON 101 and introductory statistics, or permission of the instructor. S-U grades optional. M W F 9:05. D. Sahn.

This course focuses on the analysis of global hunger and malnutrition. Students analyze the dimensions, causes, and solutions to hunger and malnutrition, particularly in developing countries. Grades are based on a mid-term and a final exam, a term paper, and class participation.

#### **[NS 475 Mechanisms Underlying Mammalian Developmental Defects (also BIOAP 475)]**

Spring. 3 credits. Prerequisites: BIOBM 330, 331-332 or 333 (may be taken concurrently). Lec M W 9:05, lab R 2:00. Offered alternate years. Next offered 2005-2006. D. Noden, P. Stover.

Developmental defects are present in nearly 5 percent of humans. Drawing upon current research, this course explores the causes of birth defects, emphasizing the interplay between genetic and environmental factors in the regulation of developmental processes. Emphasis is on nutritional disruptors, teratogens, and regulatory gene networks that are well characterized through animal studies and are associated with morphological, physiological, reproductive, or behavioral abnormalities in humans.]

#### **NS 488 Applied Dietetics in Food Service Systems**

Spring. 3 credits. Limited to 27 students. Prerequisites: food service management course, BIOMI 290. White lab coat is required. Approximately \$30.00 will be needed for special supplies/activities. Lec W 8:00-9:55; lab, T 12:25-4:25. E. Gier.

Students gain experience in facility design; equipment selection, use, and care; job analysis and evaluation; human resources planning; management of financial resources; recipe development and volume food production; computer-assisted management; employee training; and applied safety and sanitation standards. They develop other skills required to operate/manage a food service program. The application of quality management in food service operations and facility management is stressed. Laboratories are arranged through Cornell Dining. Completion of a lab experience/professional portfolio will be required.

#### **NS 499 Honors Problem**

Fall and spring. Credits to be arranged. Open only to students accepted into honors research program.

Students who have been accepted into the honors research program work on their projects under the guidance of their faculty mentors. Honors research students must complete a minimum of 6 credits of NS 499, typically spread over two or more semesters. The student and the mentor determine the appropriate number of credits for each semester. Research activities may include reviewing the literature, writing a proposal, developing research methods, collecting data in the field or laboratory, analyzing data, and writing the honors thesis.

#### **NS 600 Special Problems for Graduate Students**

Fall or spring. Credit to be arranged. Limited to graduate students recommended by their chair and approved by the instructor in charge. S-U grades optional. Division faculty.

Emphasis is on independent advanced work. Experience in research laboratories in the division may be arranged.

#### **NS 602 Lipids (also BIO AP 619)**

Fall. 2 credits. T R 11:15. A. Bensadoun. Advanced course on the molecular aspects of lipid transport. Topics covered include plasma lipoproteins, molecular biology of lipoprotein receptors, transcriptional regulation of cholesterol homeostasis, lipid transfer factors, lipolytic enzymes, and molecular aspects of atherosclerosis.

#### **[NS 603 Mineral Nutrition: Metabolic, Health, and Environmental Aspects (also AN SCI 603)]**

Fall. 2 credits. Letter grade only. Prerequisites: biochemistry, physiology, and nutrition. T 2:00-4:00. Offered alternate years. Next offered 2005-2006. X. G. Lei and C. C. McCormick.

An advanced course that emphasizes metabolism, gene regulation, antioxidant, and genetic defects related to mineral nutrition. Team-taught lectures cover topics ranging from single-gene mutation to social and environmental aspects of mineral nutrition and mineral-related disorders. Effective approaches to improve global mineral nutrition by agriculture and food systems are discussed.]

#### **NS 605 Nutritional Biochemistry Colloquium**

Fall and spring. 1 credit. S-U grades only. R 12:20. Nutritional biochemistry faculty.

Nutritional biochemistry colloquium is a graduate seminar series that focuses on recent advances in biochemical nutrition. Weekly presentations are made by faculty, postdocs, and graduate students and are based on the primary literature. The presentations are followed by a discussion involving all participants.

#### **NS 607 Nutrition as an Integrating Discipline: Concepts and Paradigms**

Fall. 3 credits. Prerequisite: some prior course work or experience in nutrition, or permission of the instructor. M W F 10:10. M. N. Kazarinoff, J. P. Habicht, and division faculty.

An overview course for beginning graduate students that introduces them to the full breadth of nutritional science disciplines, including quantitative and qualitative sciences. Also suitable for seniors as an integrating course. The course presents concepts and paradigms of molecular biology, biochemistry, clinical nutrition, epidemiology, anthropology, economics, program planning and administration, policy development, and ethics. The course uses vitamin A as the example. Emphasis is placed on the integration of factual and conceptual knowledge to solve nutrition problems in human societies.

#### **NS 608 Epigenetics (Also Bio GD 608)**

Fall. 2 credits. Letter grade only. Prerequisites: BIO GD 281 and BIO BM 330, 332, or 333 or NS 320. W F 11:15. P. Soloway.

Epigenetic effects refer to reversible alterations in chromatin structure that can stably and heritably influence gene expression. These changes include covalent modifications to DNA itself or to proteins bound to DNA as well as noncovalent remodeling of chromatin. This course will examine selected epigenetic phenomena described in several eukaryotes, mechanisms regulating these effects, and their phenotypic consequences when normal regulation is lost. Reading materials will be from current literature, and participation in class discussion is required.

#### NS 611 Molecular Toxicology (also TOX 611)

Spring. 3 credits. Prerequisite: TOX 610 and a full-year 400-level course in biochemistry or equivalent. S-U grades optional. Offered alternate years, not offered 2005–2006. TBA. S. Bloom.

A study of the fundamental biochemical mechanisms of absorption, transport, metabolism and excretion of drugs, carcinogens, and toxicants. Emphasis is placed on oxidative and conjugative pathways of metabolism and of environmental and nutritional factors that influence toxicant metabolism and disposition. Methods of evaluating *in vivo* and *in vitro* metabolism are also addressed.

#### [NS 614 Topics in Maternal and Child Nutrition]

Fall. 3 credits. Prerequisites: for undergraduates only, NS 331, and 222 or 347, BIO AP 311, and permission of instructor. T R 8:30–9:55. Next offered 2005–2006. K. Rasmussen.

An advanced course on the role of nutrition during pregnancy and lactation. The feeding and growth of infants and children in health and disease is considered. Critical evaluation of current literature is emphasized via lecture, discussions, and a term paper.]

#### NS 617 Teaching Seminar

Fall or spring. 0 credit. Limited to division graduate students and students who have permission of the instructor. S-U only. E. West, D. Way.

Provides individualized instruction focusing on development of teaching skills for guiding learning in lecture, discussion, and laboratory setting, and reflection on the impact of these skills on teaching and learning. Students identify the aspects of the specific teaching assignments they wish to develop and work with instructors on independent learning projects that may include preparation for lecturing, preparation of exams, efficient grading, and so on. Optional videotaping provides opportunities for practice and analysis.

#### NS 618 Teaching Experience

Fall or spring. 0 credit. Limited to division graduate students and students who have permission of instructor. S-U only. E. West. Designed to provide experience in teaching nutritional sciences by direct involvement in college courses under supervision of a faculty member. The aspects of teaching and the degree of involvement vary, depending on the needs of the course and the experience of the student.

#### NS 619 Field of Nutrition Seminar (also AN SC 619)

Fall or spring. 0 credit. S-U only. M 4:00. Faculty and guest lecturers. Lectures on current research in nutrition.

#### [NS 620 Food Carbohydrates (also FOOD 620)]

Spring. 2 credits. Prerequisites: BIO BM 330 or equivalent. Letter grades only. T R 10:10. Offered alternate years. Next offered 2005–2006. J. Brady, B. Lewis.

A consideration of the chemistry of carbohydrates, including sugars and complex carbohydrates (starches, pectins, hemicelluloses, gums, cellulose, and glycoconjugates). Emphasis is placed on intrinsic chemistry, functionality in food systems, and changes occurring during food processing and storage.]

#### NS 625 Community Nutrition in Action

Fall. 5 credits. Limited to dietetic interns. M 1:25–3:25. S. Travis.

This course provides students enrolled as dietetic interns with supervised, in-depth experiences in a community nutrition program and fosters the integration of research, theory, and practice. Through placements in community programs, students gain experience in program administration and in assessing, designing, implementing, and evaluating food and nutrition programs for targeted populations through public organizations. In weekly seminars (and other seminars and observations as arranged) students integrate theory and practice, reflect upon their placement experience, learn about community nutrition research, and explore the many issues facing community food and nutrition practitioners.

#### NS 626 Special Topics in Food

Fall. 2 credits. TBA. B. Lewis.

This course provides a discussion of current research on specific topics related to functional foods and nutraceuticals/phytochemicals.

#### [NS 630 Anthropometric Assessment]

Spring. 1 credit. Prerequisite: NS 331 or equivalent and permission of the instructor. 5 weeks only. Offered alternate years. W 1:25–4:25. Next offered 2005–2006. J. Haas.

Topics covered in this lecture/lab course are: biological basis of anthropometry for nutritional status assessment, quality control of anthropometric data, applications to special groups (infants, children, adolescents, pregnant women, and the elderly), statistical analysis and presentation of anthropometric data, references standards and interpretation, measurement techniques of anthropometry, and body composition assessment.]

#### NS 635 Introduction to Community Nutrition Research for Dietetic Interns

Fall. 2 credits. Prerequisites: enrollment in Cornell Dietetic Internship Program or equivalent background and research placement. M 10:00. C. Bisogni.

An introduction to the paradigms, concepts, methods, and issues involved in community nutrition research. Dietetic interns conduct individual research projects at their community nutrition placement sites. Course lectures, readings, and activities support students as they design their projects, develop research methods, collect data, and interpret findings. Students write a proposal, apply for human subjects approval, prepare a written report, and present an oral report.

#### NS 637 Epidemiology of Nutrition

Spring. 3 credits. Limited to graduate students. Prerequisites: BTRY 601 and

concurrent registration in BTRY 602 or equivalent knowledge. Basic knowledge about the nutritional aspects of growth and development and about nutritional biochemistry. T 3:00–5:00. J-P. Habicht.

This course covers principles of nutritional epidemiology, impact assessment of nutrition intervention programs, and nutritional surveillance. Principles of using nutritional information in decision making are presented. The course shows how the biochemistry and physiology of nutrition can be related to epidemiological assessment and research strategies.

#### NS 638 Epidemiology of Nutrition Seminar

Spring. 3 credits. Reserved for graduate students planning field intervention studies; by permission of instructor.

Prerequisite: NS 637. TBA. J-P. Habicht.

Covers the meta-analysis, design, measurement, and analytic issues involved in developing, implementing, and analyzing studies of field interventions with nutritional impact.

#### NS 640 Social Science Theories in Nutrition

Fall. 3 credits. Limited to 20 graduate students. T R 10:10–12:05. J. Sobal.

Social science theories from sociology, psychology, anthropology, economics, political science, geography, and history that contribute to understanding food, eating, and nutrition will be discussed to understand how paradigms, theories, and models apply to nutrition topics, issues, and problems.

#### NS 644 Community Nutrition Seminar

Fall and spring. 1 credit. S-U only. Fall M 11:15, spring M 12:20. A. Gillespie.

Sponsored by the Cornell Community Nutrition Program. Graduate students and faculty learn about current research in the program and related fields within and outside Cornell and about community nutrition theories and research methodologies. The seminar also provides a forum to discuss participants' own research and current issues in community nutrition.

#### NS 646 Seminar in Physicochemical Aspects of Food

Spring. 1–3 credits. Prerequisite: a college course in organic chemistry or biochemistry. S-U grades optional. T R 1:25–2:40. B. Lewis, B. Parker.

An introduction to physicochemical aspects of food, for graduate students who have had limited or no work in this area. The seminar uses the lectures of NS 345 as a basis for supplementary readings and critical review of research on selected topics.

#### NS 650 Assessing Food and Nutrition in a Social Context

Fall. 4 credits. Prerequisite: course in social sciences. Letter grades only. T R 1:25–2:40. D. Pelletier, G. Pelto.

Food and nutrition problems in developed and developing countries may manifest themselves in biological or functional terms, but their causes and solutions ultimately are rooted in the socio-political world. This course provides multidisciplinary perspectives and some community experiences needed to assess and analyze the social context of nutrition problems. The course is relevant to developed and developing countries and to research and practice related to community nutrition as well as nutrition policy.

**NS 651 Food and Nutrition Action in a Social Context**

Spring. 3 credits. Prerequisites: at least 1 course in social sciences; NS 650 strongly recommended. Letter grades only. T R 1:25–2:40. D. Pelletier, G. Peltó.

This course builds upon the perspectives developed in NS 650. It provides a framework for combining socio-political considerations and analytical criteria in the planning, implementation, and evaluation of nutrition actions at community and policy levels. Case studies from the United States and developing countries are used extensively for examining a wide range of nutrition actions from the perspective of this integrated framework.

**NS 660 Special Topics in Nutrition**

Fall or spring. 3 credits maximum each term. Registration by permission of the instructor. Division faculty.

Designed for students who want to become informed in any specific topic related directly or indirectly to nutrition. The course may include individual tutorial study, experience in research laboratories, a lecture series on a special topic selected by a professor or a group of students, and/or selected lectures of another course already offered. Topics may be changed so that the course may be repeated for credit.

**NS 680 International Nutrition Problems, Policy, and Programs**

Spring. 3 credits. Prerequisite: permission of instructor. T R TBA. Offered alternate years. Not offered 2005–2006. International Nutrition faculty.

Designed for graduate students who want to learn about the important nutritional problems of developing countries. The major forms of malnutrition related to poverty and their underlying causes are discussed. Emphasis is placed on programs and policies that can help poor countries and communities improve their nutritional and health status.

**NS 685 Empirical Methods for the Analysis of Household Survey Data: Applications to Nutrition, Health, and Poverty (also ECON 771)**

Spring. 3 credits. Prerequisites: intermediate microeconomics, intermediate statistics or econometrics (through multiple regression and limited dependent variable models), or permission of the instructor. M W TBA. D. Sahn.

The course focuses on empirical methods for the analysis of household survey data. Students examine a series of measurement and modeling issues focused on health and nutrition, education, and poverty. In addition, they explore methods to evaluate social programs. Course readings and data that are used for hands-on empirical exercises are largely from Africa and Asia.

**[NS 690 Trace Element and Isotopic Analysis (also CHEM 628)]**

Spring. 3 credits. Primarily for graduate students and advanced undergrads. Prerequisite: CHEM 288 or 390, 302 or CHEM 208 and MATH 112, or permission of instructor. S-U grades optional. T R 11:15. Offered alternate years. Next offered 2005–2006. J. T. Brenna.

Survey course in modern high precision isotope ratio mass spectrometry (IRMS) techniques and trace/surface methods of analysis. Topics include dual inlet and continuous flow IRMS, thermal ionization MS, inductively coupled plasma MS, atomic

spectroscopy, ion and electron microscopies, X-ray and electron spectroscopies, and biological and solid state applications. The first five weeks of CHEM 628/NS 690 focus on IRMS instrumentation and are offered as a separate 1 cr. special topics course (NS 660).]

**NS 698 International Nutrition Seminar**

Fall and spring. No credit. No grades given. R 12:20–1:10. E. A. Frongillo.

This seminar series consists of presentations by Cornell faculty and graduate students and invited outside speakers. Speakers cover a range of topics relating to nutritional problems, policy, and programs in nonindustrialized countries.

**NS 699 Special Topics in International Nutrition**

Fall and spring. 3 credits maximum each term. Registration by permission of instructor. Faculty in International Nutrition Program.

This option is designed for graduate students, mainly those with a concentration in international nutrition, who wish to become familiar with some specific topic related to international nutrition that is not adequately covered in an existing course. It consists of tutorial study on an agreed topic. Because the topics change, the course may be repeated for credit.

**NS 702 Seminar in Toxicology (also TOX 702)**

Fall or spring. 1 credit. S-U grades only. F 12:20. Staff.

The seminar program covers varied topics in biochemical, genetic, nutritional, veterinary, and regulatory toxicology, ecotoxicology, and environmental chemistry. Included are presentations of basic research studies, fundamental concepts, and research activities involving environmental problems of a toxicological nature. Presentations are given by speakers from Cornell and visitors.

**NS 703 Seminar in Nutritional Sciences**

Fall and spring. 1 credit. S-U grades only. T 12:20 or W 12:20. Division faculty.

Presentations of original articles pertinent to the nutritional sciences. Students read and learn how to critically analyze and interpret original articles published in a wide variety of journals. Students learn how to make professional presentations and how to critique the presentations given by others.

**NS 899 Master's Thesis and Research**

Fall or spring. Credit to be arranged. Prerequisite: permission of the chair of the graduate committee and the instructor. S-U grades optional. Division graduate faculty.

**NS 999 Doctoral Thesis and Research**

Fall or spring. Credit to be arranged. Prerequisite: permission of the chair of the graduate committee and the instructor. S-U grades optional. Division graduate faculty.

## FACULTY ROSTER

Arion, William J., Ph.D., U. of N. Dakota. Emeritus Prof.  
Bensadoun, Andre, Ph.D., Cornell U. Prof., Nutritional Sciences/Physiology  
Bisogni, Carole, Ph.D., Cornell U. Prof.  
Brannon, Patsy, Ph.D., Cornell U. Prof.  
Brenna, J. Thomas, Ph.D., Cornell U. Prof. and Director of Undergraduate Studies

Campbell, T. Colin, Ph.D., Cornell U. Jacob Gould Schurman Emeritus Professor of Nutritional Biochemistry  
Cassano, Patricia, Ph.D., U. of Washington. Asst. Prof.  
Chen, Junshi, M.D., Peking Medical College, China. Adjunct Prof.  
Devine, Carol M., Ph.D., Cornell U. Assoc. Prof.  
Dollahite, Jamie, Ph.D., U. Texas. Assoc. Prof. and EFNEP Leader  
Frongillo, Edward, Jr., Ph.D. Cornell U. Assoc. Prof.  
Garza, Cuthberto, M.D., Baylor College; Ph.D., MIT. Prof. and Director  
Gillespie, Ardyth, Ph.D., Iowa State U. Assoc. Prof.  
Haas, Jere D., Ph.D., Pennsylvania State U. Nancy Schlegel Meining Professor in Maternal and Child Nutrition  
Habicht, Jean-Pierre, Ph.D., Massachusetts Inst. of Technology. James Jamison Professor of Nutritional Epidemiology  
Kazarinoff, Michael N., Ph.D., Cornell U. Assoc. Prof., Nutritional Sciences/Biochemistry, Molecular and Cell Biology  
Levitsky, David A., Ph.D., Rutgers U. Prof.  
Lewis, Bertha A., Ph.D., U. of Minnesota. Assoc. Prof.  
Manor, Danny, Ph.D., Albert Einstein College of Medicine. Asst. Prof.  
McCormick, Charles, Ph.D., North Carolina St. U. Assoc. Prof.  
Noy, Noa, Ph.D., Tel-Aviv U. (Israel). Prof.  
Olson, Christine M., Ph.D., U. of Wisconsin. Prof.  
Parker, Robert S., Ph.D., Oregon State U. Assoc. Prof. and Associate Director for Academic Affairs  
Pearson, Thomas, Ph.D., Johns Hopkins U. Adjunct Prof.  
Pelletier, David, Ph.D., The Pennsylvania State U. Assoc. Prof.  
Peltó, Gretel, Ph.D., U. Minnesota. Prof.  
Rasmussen, Kathleen M., Sc.D., Harvard U. Prof.  
Rivera, Juan, Ph.D., Cornell U. Adjunct Asst. Prof.  
Sahn, David, Ph.D., M.I.T. Prof.  
Sobal, Jeffery, Ph.D., U. of Pennsylvania. Assoc. Prof.  
Soloway, Paul, Ph.D., Princeton U. Assoc. Prof.  
Stipanuk, Martha H., Ph.D., U. of Wisconsin. Prof.  
Stoltzfus, Rebecca, Ph.D., Cornell U. Assoc. Prof.  
Stover, Patrick, Ph.D., Med. College of Virginia. Assoc. Prof.  
Strupp, Barbara, Ph.D., Cornell U. Assoc. Prof.  
Travis, Susan, M.S., Colorado State. Lecturer  
Utermohlen, Virginia, M.D., Columbia U. Assoc. Prof., Nutritional Sciences/Biochemistry, Molecular and Cell Biology  
West, Elise, Ph.D., Cornell U. Lecturer and Assistant Director for Academic Affairs

## Other Teaching Personnel

Gier, Emily, MBA, Binghamton U. Lecturer  
Swanson, Joy, Ph.D., Cornell U. Research Associate  
You, Chasook, Ph.D., Cornell U. Teaching Support Specialist

## Joint Appointees

Bauman, Dale, Prof., Animal Science/Nutritional Sciences  
Miller, Dennis, Prof., Food Science/Nutritional Sciences